URBAN EROSION - THE OFF-SITE CONSEQUENCES

Stephen Martin

AUTHOR: Georgia Soil and Water Conservation Commission, 624 South Milledge Ave., P.O. Box 8024, Athens, GA 30603
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INTRODUCTION

Georgia's Erosion and Sedimentation Act (O.C.G.A. 12-7-1 et seq.) has been in effect for more than thirteen years. Why did the state legislature feel such a law was necessary? A dynamic industry producing geosynthetics, erosion control mats and blankets, not to mention the designers and planners of erosion and sediment control systems and services, now flourishes in Georgia and elsewhere in the U.S. Why? The answer to both of these questions is to prevent the off-site impacts of urban erosion.

The focus of this paper is the specific consequences of urban erosion and sedimentation. Are we winning the war? Have we made progress in Georgia in the years since the passage of Act 599? These are some of the questions this report will answer.

A 1985 study by the Conservation Foundation determined that off-site damages from all sources of erosion cost U.S. taxpayers $6.1 billion dollars per year. The damages occur as polluted waterways, sediment choked harbors and estuaries, and increased flooding. Sedimentation also results in the destruction of the breeding grounds of fish and the invertebrates upon which they feed. Annually, because of sediment deposition, Americans lose the water storage capacity in our lakes and reservoirs for a city of 5.5 million people.

Of the $6.1 billion dollars in damages that we incur each year, $4 billion comes from construction sites, storm water runoff from streets and highways, and mining operations. Urban erosion is rapidly overtaking agricultural erosion as the primary source of sedimentation.

In Georgia, increased development pressures are impacting cities and counties as well as the citizens within their jurisdictions. Six years ago, Peachtree City spent $1.4 million dollars to dredge the sediments from Peachtree Lake, the municipal water supply reservoir. The city engineer now reports that the lake needs dredging again. Costs have been estimated at $4 million. The Henry County Public Works Department spends an average of $600-800 per week for crews to keep storm drains and culverts clear of sediments. The Cobb-Marietta Water Authority estimates that they remove 33,000 cubic yards of sediment from intake water each year. In 1989 that resulted in a cost to Cobb-Marietta taxpayers of $405,000. That same year Atlanta spent $136,000 on liquid aluminum silicates to remove sediments from drinking water.

In Gwinnett Co., a homeowner received 7300 cubic yards of sediment in his pond over a six month period from a ten acre development upstream. In Wilkes Co. another property owner received 2000 cubic yards of sediment in his catfish pond from a small shopping center development upstream. Each case resulted in costly litigation. The irony is that the costs of effective erosion control are a fraction of those spent on attorney fees and court costs.

So, are we winning the war? It is too early to tell. Have we made progress in Georgia since the Erosion and Sedimentation Act was passed? We have come a long way since 1975 and we have a long way to go. Education and technical assistance provide many of the answers. State sponsored short courses on erosion and sedimentation control and stormwater management train engineers and planners, county and city inspectional staff, and others involved in land disturbing activities. In addition, technical workshops are conducted throughout the state to meet the needs of those working within the various physiographic provinces of Georgia. The educational programs are responsible for the greatest advances to date.

The remaining credit goes to our lawmakers. Amendments to Georgia's Erosion and Sedimentation Act occurred in 1980, 1985, and 1989. The 1989 amendments, in particular, represent the most sweeping changes since the passage of the Act. Those changes resulted in protection of stream side buffer zones, permissible turbidity levels in receiving streams, and increased civil penalties for violators. Fine tuning the law must be a continuing process.

Georgia is in the forefront of states with erosion and sediment control programs that work. It is because of our educational and technical assistance programs and our legislation. The effectiveness of our efforts will be reflected in our commitment to clean water.

LITERATURE CITED

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